

IN THE ABSTRACT

Page 20, delete the Abstract in its entirety and insert therefor:

13 -- A system and method for enhancing acoustic signal buried in noise. The invention matches the acoustic input to a signal model and produces a corresponding output that has very low noise. Input data are digitized, transformed to a time-frequency representation, background noise is estimated, and transient sounds are isolated. A signal detector is applied to the transient. Long transients without signal content, and the background between the transients, are included in the noise estimate. If at least some part of the transient contains signal of interest, the spectrum of the signal is compared to the signal model after rescaling, and the signal's parameters are fitted to the data. If an existing template is found that resembles the input pattern, the template is averaged with the pattern in such a way that the resulting template is the average of all the spectra that matched that template in the past. --

RESPONSE

The Examiner has objected to claim 4. In addition, the Examiner has rejected claims 1, 3 and 5 under 35 U.S.C. 102(b), and has rejected claims 2, 4, and 6 under 35 U.S.C. 103(a). In response, Applicant has amended claim 4 to overcome the Examiner's objection. Applicant also argues that claims 1-6 are in condition for allowance. Finally, Applicant has added claims 7, 8 and 9.

OBJECTION

The Examiner has objected to claim 4 because "[t]he preamble of claim 4 is directed towards a method for enhancing acoustic signals buried in noise, yet the claim limitations provide for system ('means for') language." Applicant has amended claim 4 so that the preamble is directed toward "a system for enhancing...." Applicant asserts that the claim in its present form is no longer objectionable.

ANTICIPATION REJECTIONS

The Examiner has rejected claims 1, 3 and 5 under 35 U.S.C. 102(b) as being anticipated by Liu (US Patent 5,680,508). Applicant respectfully disagrees with the Examiner's arguments and asserts that claims 1, 3, and 5 are in a condition for allowance.

With respect to claim 1, Liu does not teach the step of "replacing the digitized acoustic input signal with a low-noise output signal comprising a mix of the digitized acoustic input signal and the best matching template." Liu resynthesizes speech from the best matching

template only. (See col. 11, lines 24-33). The present invention mixes the input signal with the best matching template (See page 3, lines 23-27).

Thus, Liu does not anticipate claim 1. Claims 3 and 5 are similar in scope to claim 1. Therefore, Liu does not anticipate claim 3 or claim 5.

Thus, the Applicant contends that claims 1, 3 and 5 are in condition for allowance.

OBVIOUSNESS REJECTIONS

The Examiner has rejected claims 2, 4 and 6 under 35 U.S.C. 103(a) as being unpatentable over Liu (US Patent 5,680,508) in view of Williamson et al. (US Patent 5,027,410). Applicant respectfully disagrees with the Examiner's arguments and asserts that claims 2, 4, and 6 are in a condition for allowance.

With respect to claim 2, Applicant agrees with the Examiner that Liu does not "teach isolating transient sounds and including transients in the estimation of the background noise." More specifically, Liu does not teach the step of "isolating transient sounds within the time-frequency representation," as required by claim 2.

Applicant respectfully disagrees with the Examiner's argument that Williamson et al. "teach a system of adaptive programmable signal processing and filtering for maximizing the intelligibility of an audio signal relative to noise, which detects transient noise in an input signal, provides for estimation of the transient, background noise, and the input signal (col. 8, lines 15-35)." Applicant contends that Williamson et al. teach a spectral reshaping function to "control

noise, maintain comfortable loudness of the signal, and prevent uncomfortable loudness of intense sounds.” The function “helps to improve intelligibility of quiet sounds following loud transients.” (col. 8, lines 15-35). Thus, rather than “isolating transient sounds” as required by claim 2, Williamson et al. teach the minimization of the intensity differential of transients as compared to intervening quiet sounds.

Thus, Liu in view of Williamson et al. does not make claim 2 unpatentable as being obvious under 35 U.S.C. 103(a). Claims 4 and 6 are similar in scope to claim 2. Thus, the Applicant contends that claims 2, 4 and 6 are in condition for allowance.

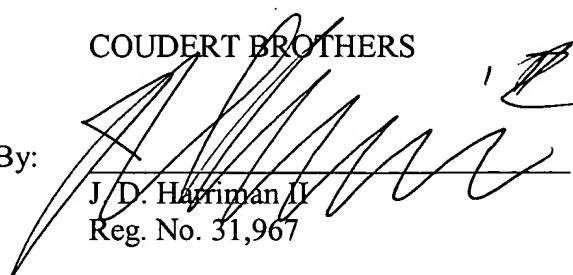
CONCLUSION

For at least the foregoing reasons, Applicant respectfully submits that pending claims 1-9 are patentably distinct from the prior art of record and in condition for allowance. Applicant therefore respectfully requests that pending claims 1-9 be allowed.

Respectfully submitted,

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